

CLINICAL MEDICINE

ORIGINAL ARTICLES

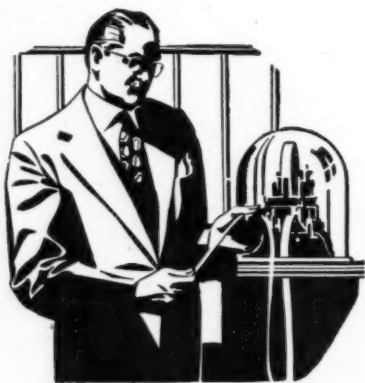
	Page
Diagnostic Roentgenology in Obstetrics	78
A New Treatment of Osteo-Arthritis	85
Early Diagnosis of Heart Disease	88
Deficiency Anemias	89
Diethyl Ozide: New Therapy in Impending Gangrene	92
The Young Doctor	99
Smallpox Vaccination	102
Control of Bleeding During Cholecystectomy (Pictorial Section)	95
Easier Vein Puncture (Pictorial Section)	96
"Re-formed" Gallbladder (Pictorial Section) ...	98
Editorials	103

COMPLETE TABLE OF CONTENTS ON
ADVERTISING PAGE FOUR



MARCH
1947

Financial Wizard



Dietary Dub!

He may not be one of your patients, but you know his dietary counterparts: Men—and women—too deeply immersed in "important" affairs to take time to eat properly. With them, scanty breakfasts and hasty, badly balanced lunches are the rule; dinners which fail to compensate for the defects of earlier meals, far from uncommon. The inevitable result is an increase in the ranks of the self-made victims of borderline vitamin deficiency. You know them: the ignorant and indifferent, food faddists, persons on self-imposed and badly balanced reducing diets, alcoholics, excessive smokers and many others. ● You know, too, that

since the bodily reserves of the vitamin B complex are not large, even in patients whose reserves are good, the more frequent results are deficiencies of the B factors. ● This is one of the important reasons why we think you will wish to know about SUR-BEX, a pleasant tasting, high potency vitamin B complex tablet. An even more important consideration is that Sur-bex contains all of the B complex factors in therapeutic amounts. The third reason is the availability of Sur-bex to your patients through good pharmacies everywhere. Remember the name, SUR-BEX. ABBOTT LABORATORIES, North Chicago, Illinois

Sur-bex

TRADE MARK

EACH TABLET CONTAINS:

Thiamine Hydrochloride, 6 mg.; Riboflavin, 6 mg.;
Nicotinamide, 30 mg.; Pyridoxine Hydrochloride, 1 mg.;
Pantothenic Acid (as calcium pantothenate), 10 mg.;
Liver Concentrate,* 5 grs.;
and Brewer's Yeast, Dried,* 2½ grs.
*For other B complex factors.

Diagnostic Roentgenology in Obstetrics

By HOWARD CURL, M.D.

*From the Division of Anatomy and the John Gaston Hospital,
University of Tennessee, Memphis*

WOMEN have brought forth and reared their young since the beginning of time, often without aid and apparently without much trouble or discomfort. Infant and maternal mortality has been high, but through the centuries human population has increased at a remarkable rate.

Medical science has done much to ease the lot of the expectant mother, to decrease maternal deaths and to insure a larger number of living and healthy offspring. Roentgenology deserves a place among the obstetric aids that are contributing to the maternal and infant well-being of today. A brief resumé of some of the important uses of this branch of science are here presented.

Diagnosis—Positive and Differential

A diagnosis of probable pregnancy is not difficult to make and usually the case is not so urgent but that time can be depended on to make the diagnosis positive. Occasionally, however, it is essential that a positive diagnosis be made at the earliest possible moment. While other diagnostic means, having a high degree of accuracy, may be used early *none can be more positive than the shadow of a fetal skeleton on an x-ray film.*

With proper technique a fetal skeleton should be demonstrated by the twentieth week of gestation, frequently earlier. With a presumptive diagnosis of five or more months' duration in which no fetal shadow can be demonstrated pregnancy must be ruled out and the

attention turned to a uterine, ovarian or other abdominal tumor. The converse is just as true. One is not justified in opening an abdomen for the removal of such a tumor without a proper roentgen examination which revealed no fetal bones. More than one surgeon has learned this the hard way, much to his embarrassment.

Pelvic Deformity

If there is any reason to suspect pelvic deformity in the expectant mother, a proper roentgen examination will disclose the type and extent of such abnormality. Aside from the generally contracted pelvis, the type that may be misleading is the woman with broad hips in which the external transverse diameter taken between the iliac crests or the greater trochanters is greater than normal and the external anteroposterior or A-P diameter is not decreased. The x-ray film may show the transverse diameter to be increased at the expense of the true conjugate due to forward displacement of the sacrum with encroachment on the pelvic inlet. Deformity of the ischial spines or tuberosities or of the coccyx may also be determined and will forewarn the obstetrician of possible trouble.

Fetal-Pelvic Disproportion

The only anatomical reason for difficult labor is a disproportion between the presenting part of the fetus and the size of the maternal pelvis. Having ruled out anatomic deformity it is quite easy, without any complicated gadgets, to

determine quite accurately, the dimensions of the bony pelvis. Because of the difficulty in positioning it is much more difficult, if not impossible, to get reliable measurements on the fetal parts at least until the presenting part is at the inlet. If the head is presenting and is over the inlet it is not difficult to see, without accurate measurement, that there is or is not cephalic-pelvic disproportion.

Fetal Hydrocephalus

Fetal hydrocephalus with or without other fetal deformities may prevent engagement and, therefore, make normal delivery impossible. Breech, transverse or other than cephalic presentation may prevent engagement. A proper roentgen

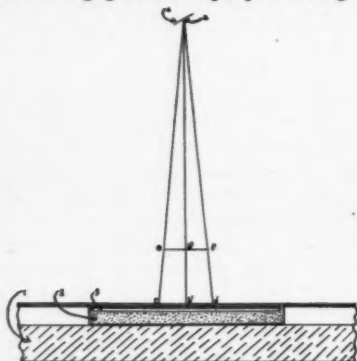


Fig. 1

Fig. 1. Determining the True Conjugate

1. Cross section of x-ray table.
2. Bucky diaphragm.
3. Bucky tray containing film in cassette.
4. X-ray tube target.
 - a cone of rays from target.
 - c d cone of rays striking x-ray film.
 - e f cone of rays striking patient, i.e. plane of pelvic inlet.
 - a b¹ central beam of x-rays. This is also target film distance which, in the problem, is 75 cm. (30 inches)
 - a b² target patient distance, 60 cm.
 - c d pelvic inlet as measured on film or 14 cm. in problem.
 - e f true conjugate or X to be calculated.

Solution:

$$ab^1 (75 \text{ cm}) : ab^2 (60 \text{ cm}) :: cd (14 \text{ cm}) : ef (X)$$

$$60 \times 14 = 840$$

$$840 \div 75 = 11.2 \text{ cm., the true conjugate}$$

Fig. 2. Straight back chair without arms placed on x-ray table to make back rest of about 45 degree angle.

examination will make clear the reason for failure of normal progress.

Multiple Pregnancies

What would be the reaction of the prospective parents or of the obstetrician if they knew beforehand that quintuplets were in the offing? Would there be a better chance for survival in multiple births if preparations could be

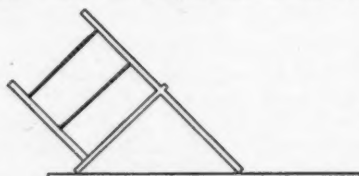


Fig. 2

made before delivery? Frequently it is possible to diagnose multiple pregnancy by palpation of skeletal parts or by auscultation of fetal heart sounds. Just as often, this is not possible. In most instances it probably would not make a great deal of difference but there may be times when it would be of utmost importance to have this knowledge. An x-ray examination is the only definitely positive method of obtaining this information should it be desired or deemed necessary.

Age of Fetus

Much effort has been expended in attempting to determine the size and/or

ORIGINAL ARTICLES

age of the fetus by measurement of the fetal skull shadow on the x-ray film. It is seldom, if ever, possible to obtain both a true A-P (anterior-posterior) and a true lateral diameter of the fetal skull in utero. Such measurements as are obtained are therefore unreliable. It is, however, possible from an A-P and/or lateral film of the mother late in pregnancy to get a fetal shadow from which satisfactory and reliable crown-rump measurements may be made. This is possible because slight errors in the crown-rump length are not as critical as those in cephalic measurements. Furthermore the true crown-rump length

does not depend on a true A-P or lateral positioning of the fetus. The crown-rump length having thus been determined can be translated into fetal age by comparing with published data such as occur in the table on Prenatal Growth in Length and Weight found in Morris' "Human Anatomy," page 30, Tenth Edition.

Dead Fetus

It is not always possible to diagnose a dead fetus by an x-ray examination but in suspected cases strongly presumptive or definitely positive evidence is often obtained. If a reliable date can be fixed



Fig. 3. Sub-pubic angle film. Shadow of ischial rami fused with shadow of iliopsopectineal line shows width of birth canal.

for conception, the state of development and the size of the fetal skeleton will give strong evidence as to the life or death of the fetus. Positive proof of fetal death may be assumed when there is definite roentgen evidence that fetal growth is not commensurate with fetal age or where there is evidence of maceration of fetal parts.

Roentgen Technic for the Obstetric Patient

For determining the presence of a fetal shadow, the size and age of the fetus, hydrocephalus or other fetal deformity and the viability of the fetus an anterior-posterior film, 14 x 17 inches is essential. (See Fig. 5) It is also desirable to have a lateral film of the same size. (See Fig. 4)

For determining the position of the fetus in the first stage of labor, it is also necessary to make two 14 x 17 inch

films, one A-P and the other lateral. One exposure is made with the patient flat in the supine position and the other in a true lateral. If, however, there is any question about fetal-pelvic disproportion a different positioning will give added information on this point.

Fetal-Pelvic Disproportion

For these determinations three films should be made, (1) lateral on 10 x 12; 11 x 14; or 14 x 17 inch film depending on size of patient, (2) suprapubic film of birth canal on 10 x 12 inch film and (3) a subpubic film also 10 x 12 inches.

For the lateral film the patient is placed on the side and the tube so centered that the shadow of one femoral head is exactly superimposed over the other femoral head. On this film the body of the pubis and the promontory of the sacrum are shown and on it the

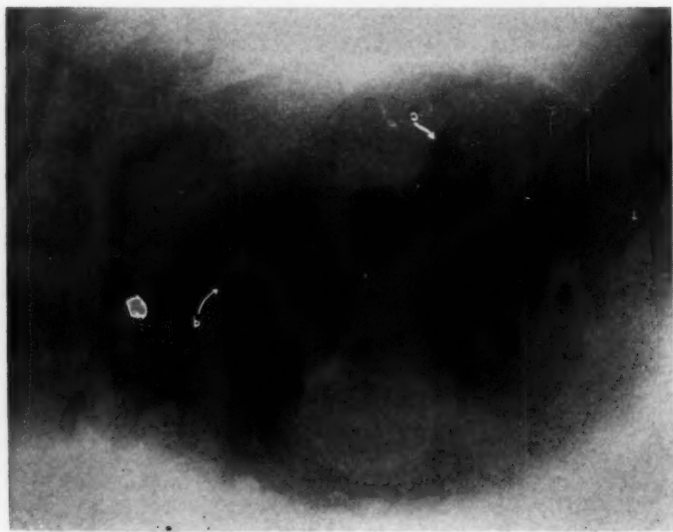


Fig. 4. Lateral view of pelvis, fetal head over inlet.
Measurement: Factors 75 cm. target-films distance, 59 cm. from target to plane of conjugate, 13.5 cm. measurement of conjugate on film.

Calculation:

$$75 : 59 :: 13.5 : X$$

X, or true conjugate, equals 10.6 cm.

obstetrical conjugate may be measured. Because the plane of the conjugate is removed some distance from the film, the measurement on the film will be greater than the true conjugate on the patient. This error may be determined and the true conjugate established by mathematical computation

Example: Patient is placed on the side so that the trechanteric shadows will be superimposed. Place the tube so that the tube-target to film distance is 75 cm. If the intertrochanteric measurement of the patient is 30 cm. then the distance from film to symphysis pubis, i.e. the plane of the conjugate will be 15 cm. and the distance from the tube target to plane of the conjugate will be 60 cm. When the film has been made, measure the true conjugate on

the film, from the posterior surface of symphysis pubis to sacral promontory. Supposing this measures 14 cm., then by the following formula, $75:60::14:X$, X equals 11.2 cm. which will be the true conjugate on the patient. (See Fig. 1.)

Suprapubic film of birth canal is made by placing the patient on the table in a semi-sitting position, with the thighs and legs flat on the table and the trunk on a back rest at approximately 40 or 45 degrees. This position may be obtained by using an ordinary kitchen chair without arms. (See Fig. 2.) The chair is placed on the table with the front of the seat and the top of the back resting on the table. The back of the chair and the continuing back legs will then make an angle of approximately 45 degrees from the horizontal table top. The plane of



Fig. 5 Anterior-posterior view of pelvis, fetal head over inlet. Measurement: Factors same as Fig. 4 except widest transverse diameter of pelvis measured on film is 15.8 cm.

Calculation:

$$75 : 59 :: 15.8 : X$$

X or transverse diameter of pelvis equals 12.4 cm.

the pelvic inlet should also be horizontal with the table top. It may be necessary, especially if the patient has difficulty in placing the legs flat on the table, to accentuate the lumbar curve by use of a pad in the lumbar region.

The tube is centered in the mid-line between the anterior superior iliac spines and the film is made. Measurements are taken as above, from the target to film and from tube target to the plane of the inlet and the calculations made as in the previous example. By this method the anterior-posterior, lateral and oblique diameters of the bony pelvis may be calculated with a great degree of accuracy. The ischial, interspinous and intertuberosus distances may be measured directly from the film without correction. This is possible because these parts are so nearly on the film that any error will be so slight that any differences between the measurements on the film and those on the patient will be insignificant. Such a film made after engagement will also show position of the presenting part.

The sub-pubic film was first suggested by Caldwell and Moloy, and later modified by Dr. Paul A. Bishop of the Pennsylvania Hospital. Closely following the procedure as outlined by Dr. Bishop, films at the John Gaston Hospital are made as follows: The patient is placed supine on the table, thighs slightly separated, the knees flexed and supported by pillows. The lumbar curve should be obliterated so that the back touches the table. The tube is centered midway between the anterior superior iliac spines 62.5 cm. (25 in.) target film distance. The tube is then moved toward the feet 12 inches and tilted toward the perineum at an angle of 45 degrees. The Bucky Diaphragm carrying the film cassette is moved toward the head to a point where the central x-ray beam will strike the center of the film. On the film the shadow of the pubic arch is thrown upward, the ischial rami connect the

ischial tuberosities with the shadow of the prolonged ilio-pectineal line of the pelvic inlet making it possible to visualize the shape and width of the birth canal. (See Fig. 3.) If the fetus is engaged the relation of the presenting part to the birth canal, in transverse diameter, can easily be seen.

The *sacral hiatus*, so important in caudal analgesia, is best visualized by this position. The shadow of the symphysis pubis may be superimposed on the sacral hiatus and cause some confusion. This can be eliminated by shifting the tube to one side for a distance of about 5 cm. from center. This position is also used if it is desired to check position of the needle in the sacral canal before beginning the injection.

There has been no intent to suggest that every pregnant woman be submitted to a roentgen examination. In most cases, such an examination is not indicated.

Discussion

This paper is worthwhile for the general practitioner inasmuch as it is a reminder of the value of x-ray pelvimetry and of the importance of hospital study of selected cases. Many pregnant women do not need x-ray examination; however primiparas having small measurements by usual standards roentgen pelvimetry is a valuable adjunct to clinical observation. It has not replaced careful patient study.

It is doubtful whether cephalopelvic disproportion can be detected by a single plate in which the fetal head is over the inlet; accurate roentgen pelvimetry is a difficult task, determination of the size of the fetal head even more difficult.

The statement that an ovarian or uterine tumor should not be removed without a preliminary x-ray is rather extreme. In only the very unusual problem should resort to roentgenography be necessary. A careful history and painstaking pelvic examination should be adequate.—John W. Huffman, Chicago, Illinois.

A New Treatment of Osteo-Arthritis

By G. LAUGHTON-SCOTT, M.R.C.S.,* London, England

ANY claim to restore the osteo-arthritic joint to free and painless function will be met with the objection that osteo-arthritis is a degenerative phenomenon, an ageing of joint structures; and that it is obviously not possible to renew tissue which is worn out. But old age, whether of a joint or of the body as a whole, should not be painful; and its lessening of power should not amount to disablement. Indeed, it may be contended that, in general, pain and disablement do not come to a joint unless infection is added to the ageing process. One must admit an exception to this rule in the hip-joint, where mechanical causes can certainly produce extreme pain without infection; but for all other joints, which are not hopelessly disorganized, pain means added infection, and infection means pain. The proof of this does not lie in the discovery of micro-organisms in or around the joint—for that is an uncertain business—but in the success of local treatment designed to eliminate local infection, to disinfect the joint—if such a phrase be allowed.

Any careful physician can establish the truth of this for himself by employing the method here described. He will discover, if he follows the directions, which have been found successful, that intra-articular medication transforms the prognosis of osteo-arthritis. How is it, if this sort of local chemotherapy has important possibilities, that previous workers should have overlooked them? The introduction of various chemicals into the rheumatic joint must have been attempted many times, but with slight

effect, if one may judge from the meagerness of the literature.

Small Doses

I advance the proposition that constant success has remained unachieved simply because grossly excessive doses have been administered in the past. It can, in fact, readily be shown that good results can only be obtained when the suitable medicaments are given in very small amounts, and their effects localized and prolonged, as by their solution in oil. Thus, my standard injection is 0.2 cc. or less of 10 per cent Benzyl Salicylate in olive oil. This extremely minute quantity rarely produces observable reaction, and if it does, it must itself be reduced; indeed successful treatment depends on the dosage being so low that the patient is hardly conscious that his joint has been injected.

Points of Technic

It is commonly held that the introduction even of a needle into a joint involves the risk of sepsis, but in the course of experiments and treatment *nearly seven thousand joints have been injected without its occurrence.*

The actual entry into the joint depends on considerations of anatomy which need no more than a few words. The shoulder joint is attacked by marking a spot $\frac{1}{2}$ inch outside and below the tip of the coracoid process, and thrusting the needle inwards and upwards with the humerus externally rotated. The sacro-iliac joint, being inaccessible to the needle, is reached by injecting deeply into the muscles which overlie it. The knee can best be injected at the outer side of the ligamentum patellae with the leg flexed to a

*From the Almeric Paget Institute. Islington. London. N. 1, England.

right angle. Since 1/10 c.cm. is the maximal injection a tuberculin syringe is useful.

Results

Thousands of osteo-arthritic joints have been treated since 1932, when the value of oily salicylates and other essential oils was first established, but for some years it was not realized how minute is the dose that wins best success. A series of 167 cases was published in 1938 (1); and recently Elkin, working independently on my lines, has reported very marked improvement in 68% of patients dealing with various joints of the body. (2).

My own publication of 46 consecutive severe cases, treated in a provincial town between 1940 and 1943, seems to have rather special interest, as all were gravely disabled and their history up to the present date is accurately known (3). A strict standard of success was applied, for "good result" was not claimed unless function, recovered on discharge, remained complete 6 months afterwards. Out of these 46 cases 38 were returned as "good" and 3 as "failures." It was from this series that 6 of the severest were selected for special description, and these are presented again below with their later history brought up to date.

Case 1. Osteo Arthritis of Spine, Knees, Sacro-iliac Joints and Toes.

Solicitor, age 68, seen 11-9-40, after being imprisoned in a heavy steel jacket since 1922. X-ray report (1929): "Marked osteo arthritis of spine, chiefly thoracic, 8 to 12; all lumbar vertebrae, knees and great toes affected, severe sacroiliac arthritis." He had taken yearly visits to various Spas (Aix-les-Bains 6 times).

Cervical, lumbar, gluteal and sacro-iliac fibrositis and other joints were treated. Soon he could perform laborious work in the garden and sometimes

he walked 5 miles. He was afraid to discard his jacket, but one year later did so. This is an example that severe spinal arthritis may cease to trouble if the accompanying fibrositis is successfully treated.

In May, 1945 he showed no further trouble with the joints, but he had rare single treatments for slight recurrences of fibrositis.

Case 2. Osteo Arthritis of Knees and Wrists

Clerk age 66 had had arthritis of knees for years. There were gross bony changes. Walking was impossible, and he was in despair at losing work. Both knees were hot and very swollen. Flexion of the right knee was limited.

Progress was slow while receiving minimal dosage. After six weeks he walked a mile and soon two miles. He returned to work eight weeks after starting treatment. Later, his wrists were treated.

X-ray report (Schwartzman): "In posterior anterior position, blurring of metacarpal bones was visualized; marked lipping seen in lateral position marked hypertrophic osteo arthritis."

After seven treatments the heat and swelling disappeared and function was much improved. Three years later there had been no recurrence and the patient was still actively working.

Case 3. Osteo Arthritis of Knees

A very heavy married woman, aged 66, had been "incapacitated in knees" for two years. A noted orthopedist in July 30, 1941, wrote: "X-ray shows marked degree of osteo arthritis in both knees, proliferation around joint margins and elongation of tibial spines. Further treatment is useless." She walked little and painfully.

After 14 treatments, she walked five miles without pain and has been well for 18 months. Four years later she

was perfectly well. She has had five visits since discharge.

Case 4. Osteo Arthritis of Knees

An ex-army man, aged 73, had had many accidents to knees in earlier years. For ten years was walking poorly, and for one year hardly walked at all. His knees were hot, tender and swollen. X-ray report on October 5, 1940 (Shanks): "Gross chronic osteo arthritic changes in both knee joints, with large osteophytes, some detached and may be loose in knee."

Eleven injections were given to ascertain whether changes seen by x-rays could be modified, but such was not noted. Our interest is the fact that he obtained a recovery of function after almost maximal disorganization. In February 1945, the patient reported that recovery was maintained.

Case 5. Osteo Arthritis of Knee

A theatrical producer, aged 42, had suffered an injury to his foot as a boy, with amputation of toe and removal of cartilage. For years, pain occurred on exercise; recently it was splinted and patient confined to bed, where he was examined on July 27, 1942. X-ray report (Schwartzman): "Tubercle of left knee enlarged; joint space narrowed; border of patella pointed; some liping of lower femur. Head of fibula enlarged by osteophytes." Operation had been suggested.

Moderate walking was possible in 4 weeks after treatment, since then, with a few single treatments he walks without limitation (10-5-43.) Since then he has had occasional single treatments, but cannot exceed 10 miles per day without "fatigue" of joint.

Case 6. Polyarthrititis

A lawyer, age 62, Jan. 5, 1943, had

an active process in wrists, elbows, shoulders, knees, ankles with symptoms for years. No radiographs were taken. Soon improvement occurred despite heavy duties, and after seven sessions, pain was slight. By March 1st, no abnormality was noticed, except in wrists which were puffy but not painful. Employer wrote: "Sings instead of cries on way home." Patient has been well since Sept. 1943. After this date, he has worked without recurrence up to the present time. No further treatment required.

Conclusion

The above illustrative cases, chosen in 1943 as the severest of 46 severe cases of osteo-arthritis, and with their recent history now added, may serve to indicate the sort of future that may be predicted for most of those patients who undergo intra-articular medication as it is here described. One cannot, of course, speak of "cure," for the ageing joint cannot recover its youth; nor can x-ray appearances be altered; but *it is possible in most cases to restore painless function* where pain and disability are not removable by any method in common use. It should be noted that these remarks have no application to the rheumatoid (osteo-porotic) joint in which treatment of this kind has a harmful effect, when it has any effect at all; nor to osteo-arthritis of the hip, which seems to be a purely degenerative phenomenon; though Elkin reports results in the less severe cases.

REFERENCES

1. Scott. G. Laughton, *Practitioner*. March 1938.
2. Elkin. A. C. *Med. Press & Circular*. Jan. 1945.
3. Scott. G. Laughton. *Brit. Med. J.* Oct. 23, 1943.

Draw your conclusions before your experience is large. Those of large experience are wary of conclusions.—William Mayo.

Early Diagnosis of Heart Disease

Before the appearance of edema, heart disease may not be recognized. For this early diagnosis of cardiac decompensation, the writings of T. J. Dry, M.D., cardiologist to the Mayo Clinic, suggest these signs: (1) dyspnea on exertion, which appears on less and less exertion, (2) slowing of the circulation time, (3) increase of venous pressure and (4) marked output of urine after the injection of a mercurial diuretic or after adequate doses of digitalis.

Fig. (a) indicates the direct method

of obtaining the venous pressure. Fig. (b) the rapid intravenous injection of 3 cc. of a 20 per cent calcium gluconate solution causes a warm sensation in the tongue within 10 to 16 seconds, thus determining the circulation time. The stop watch is started as soon as the injection is begun. Fig. (c) is the representation of the loss in weight and increased output of urine following mercurial diuretic injection or digitalization. (Original CLINICAL MEDICINE illustration).

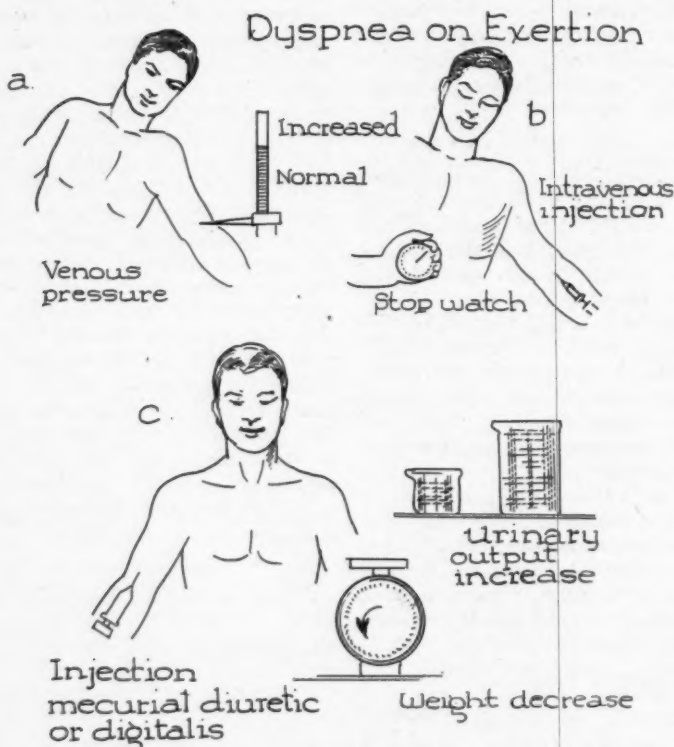


Fig A. If dyspnea appears more readily than formerly, examine the venous pressure, and **Fig. B.** the circulation time. The circulation time will be slowed and the venous pressure increased, if early congestive heart failure is present.

Fig. C. Injection of a mercurial diuretic or digitalis results in much increased urinary output and decrease in patient's weight.

Deficiency Anemias

Notes Taken From a Lecture Given By

GRACE A. GOLDSMITH, M.D.

Tulane University School of Medicine, New Orleans, Louisiana

CERTAIN constituents are required to form normal red cells.

1. The amino acids of protein are required to form globin. 2. Iron is required to form part of the hemoglobin molecule. 3. Copper is necessary to catalyze hemoglobin formation. 4. Minute amounts of other minerals may be required. 5. Vitamin C is essential for normal formation of red cells. 6. Thyroid hormone is necessary. 7. Oxygen is also required. Anoxemia results in poor red blood cell formation. The oxygen tension in bone marrow is important. 8. The hematinic principle, or, erythrocyte maturing factor is necessary. The present concept (Castle's) of the formation of this factor implies an interaction between a substance found in food, called the extrinsic factor (which may be a part of the Vitamin B-complex) and an intrinsic or gastric factor which, together, form the erythrocyte maturing factor in the intestine. This red cell maturing factor is stored in the liver and liberated to be used in red cell formation.

A new factor of the Vitamin B complex named folic acid, or L. casei factor may partially substitute for the erythrocyte maturing factor. It is not identical but has a similar action.

The more common deficiencies are 1. Iron. 2. Protein. 3. Erythrocyte maturing factor. 4. Folic acid. 5. Vitamin C. 6. Thyroid hormone.

If any of these are lacking, a deficiency anemia results.

Such deficiencies occur when the diet is deficient, when digestion and absorption are impaired, when iron cannot be mobilized properly, and when utilization by the bone marrow is abnormal.

Standards for Blood Examination

In regard to standards, it should be noted that the range of normal for hemoglobin and erythrocyte count is the same in the southern as in the northern United States. The red blood cell count averages 5.4 ± 0.8 million in normal, adult males, and 4.8 ± 0.6 million red blood cells in the adult female. Hemoglobin averages 16.0 ± 2 grams in males, 14.0 ± 2 gm. in females. The hematocrit or volume of packed red blood cells is 47 ± 5 per cent in males, 42 ± 5 per cent in females. These findings are those obtained by Wintrobe.

The size of the red cells: The mean corpuscular volume, or size of red cells, is 87 ± 5 . The mean corpuscular hemoglobin, that is the usual hemoglobin in the cell, is 29 ± 2 and the mean corpuscular hemoglobin concentration is 34 ± 2 . By these standards, one can say that the anemia is macrocytic, microcytic, or normocytic, and that it is hypochromic or normochromic.

Iron deficiency anemias are hypochronic, and often microcytic. Erythrocyte maturing factor anemias are macrocytic.

The mean corpuscular volume is determined by dividing the volume of packed red cells per one thousand cc. by the red cell count in millions.

The mean corpuscular hemoglobin is calculated by dividing the hemoglobin in grams per 1000 cc. of blood, by the red blood count in millions.

The mean corpuscular hemoglobin concentration is determined by dividing the hemoglobin in grams per hundred cc. by the volume of packed red cells per hundred cc. and multiplying by one hundred.

Other laboratory findings: The amount of iron in the blood plasma may be determined but is a difficult laboratory procedure. It is lowered in iron deficiency anemias. In erythrocyte maturing factor deficiency anemias, there is an increased amount of iron in the blood. The normal blood iron is 120 micrograms percent, (plus or minus 30).

Other laboratory findings that may be important in diagnosis are:

1. Bilirubin in stools. 2. Icterus index. 3. Fragility of red cells. 4. Evidence of sickling of red cells. 5. The level of serum proteins. 6. Biopsies of the bone marrow. 7. The determination of porphyrins.

In macrocytic anemias, there is hyperplasia of the bone marrow with arrested development of red cells at the megaloblastic stage. (Large nucleated red cells). Aplastic anemia is associated with an acellular marrow.

Iron Deficiency Anemia

Iron is a one-way substance which cannot readily get out of the body. The body regulates the amount absorbed from the gastro-intestinal tract according to tissue stores and need. Studies with radio-active iron have been important in elucidating iron metabolism. A small amount is excreted into the stool, and a little into the urine. Iron is stored in the liver, spleen and bone marrow.

How is the iron absorbed? After acute hemorrhage, little iron is absorbed from the intestinal tract. After regeneration has been under way for two weeks or more much iron is absorbed. The body stores are depleted during blood regeneration and only then will they take up more iron from the gastro-intestinal tract. In the pernicious anemia patient, 2% of iron is absorbed, which is the normal rate of absorption in a patient who is not anemic. In an iron deficiency anemia, from 15 to 20 percent of the iron given is absorbed.

Pregnancy and lactation result in a greater absorption of iron than usual.

Clinical Aspects of Iron Deficiency

A dietary deficiency may occur during growth in childhood, during pregnancy and lactation and during menstrual life to replace blood loss.

The adult male does not have a dietary iron deficiency anemia. He needs very little iron during his adult life, if the food stores have been obtained in childhood. *Iron deficiency anemia in the adult male should make one think of chronic hemorrhage, of blood loss in the intestinal tract or elsewhere; diarrhea and possibly achlorhydria may be a cause of iron deficiency anemia.*

The mean corpuscular volume and the mean corpuscular hemoglobin are reduced in iron deficiency anemia, as is the plasma iron. The serum copper is high in this condition so that additional copper is not necessary for the usual iron deficiency anemia, although it may be of value in early infancy.

Treatment

Diet—Liver, meats, beans, peas, leafy vegetables, oysters, whole grain or enriched cereal are all good sources of iron.

Iron in the form of ferrous sulphate 0.3 gram (five gr.) is given three times daily, or even double this amount that is 0.6 gram (10 gr.) may be given three times daily. This dose results in a reticulocyte response comparable to that when liver is given to patients with pernicious anemia.

At the end of three or four weeks, there is an increase in hemoglobin and in red blood cell count. It may take from three to four months for a complete return to normal.

Protein Deficiency Anemia

Protein deficiency anemias are not well understood. Some of the anemias of pregnancy may be due to protein deficiency but more investigation is needed.

Anemia due to hypothyroidism may be normocytic or macrocytic. It responds to thyroid extract.

Vitamin C deficiency anemia has not been adequately studied. Ascorbic acid is indicated.

Macrocytic Anemia

Macrocytic anemias include pernicious anemia, sprue, pellagra, and nutritional macrocytic anemia which are all closely related. Macrocytic anemia also occurs in liver disease in which the erythrocyte maturing factor cannot be stored, and in carcinoma of the stomach, and after complete gastrectomy in which there is a deficiency of "intrinsic" factor.

The clinical differentiation of sprue, pellagra, and pernicious anemia may be made on a number of points. Sprue is characterized by a fatty diarrhea and marked loss of weight. There may be low blood calcium and symptoms of tetany, calcium being excreted in the stools as a soap. Hydrochloric acid may or may not be found in the stomach. The glucose tolerance curve is flat. There is a low level of fat and carotene in the blood.

Gastrointestinal x-ray in sprue and in nutritional macrocytic anemia reveals a loss of the normal, herring-bone pattern of the small intestine. The small intestine appears segmented in sausage shape areas. There are changes in motility.

In pellagra, diarrhea occurs but not of the fatty type. Typical pigmentation of the skin appears, and there may be mental disturbance.

An inflamed, sore tongue (glossitis) is found in all these conditions.

The blood count may be the same in all three conditions. The decrease in red blood cells is greater than the decrease in hemoglobin; the red blood cells are larger than normal. A sternal puncture shows megaloblastic arrest.

The treatment of macrocytic anemias is chiefly with the use of liver extract. Large doses should be given so that a maximum reticulocyte response occurs. A greater reticulocyte response occurs

when the initial red blood cell count is low.

We use concentrated liver extract (15 units to 1 cc. of extract). Fifteen units, or 1 cc. are given daily in the average case and 30 units in very severe pernicious anemia. These daily doses are continued from one to two weeks and are then gradually reduced. If spinal cord involvement is present the dose is usually doubled and part of the dose may be given as crude liver extract. (2 units per cc.) It is felt that the crude liver extract may contain other factors than the erythrocyte maturing principle. Crude liver extract in large amounts is also more effective in sprue.

One must individualize the dose of liver extract for maintenance. The average patient requires from 15 to 60 units a month (one-half to two units daily), which may be given in one injection, twice monthly, or weekly.

Patients with liver disease require more frequent injections as storage is poor.

Folic Acid (L. casei Factor)

Folic Acid. This is a new factor the lack of which has been found responsible for the production of anemia in experimental animals. At the present time, its use is experimental in man but it appears to be a therapeutic agent of merit in macrocytic anemia of various types including pernicious anemia, nutritional macrocytic anemia and sprue. Usually the red cell count rises to as high a level as with liver extract. Folic acid may be given orally or intramuscularly. The dose tentatively established is 15 mg. daily for anemia in relapse and 5 mg. or less daily for maintenance.

Discussion. Hydrochloric acid is useful in relieving gastrointestinal symptoms in pernicious anemia even though we know we cannot replace all the hydrochloric acid that should be present.

Iron and liver are not usually prescribed together. If liver therapy of

macrocytic anemia results in cells of normal size with hypochromia, iron is then needed.

If the patient with pernicious anemia suffers blood loss, whether acute or chronic, one should give iron and liver together. If a patient with iron deficiency anemia does not respond to iron, liver extract may be tried as other factors beside the erythrocyte maturing fac-

tor may be present which would assist in correcting the anemia.

A hemoglobin determination, red blood cell count, and hematocrit should be part of the routine examination of every patient. It is difficult to get an accurate hemoglobin estimation. Any instrument must be standardized for use. The Newcomer method is used in the Tulane laboratories and also the photoelectric colorimeter which is preferable.

Diethyl Oxide: New Therapy in Impending Gangrene

By ROBERT A. KATZ, M.D., *New Orleans, Louisiana*

THERAPY in arteriosclerosis and associated ischemic states has reached a terrifying low stage in medical interest, and¹ this in the face of statistics which point to diseases of the blood vessels as being the greatest single cause of morbidity and mortality in America. Men high in the profession have spoken glibly about the degenerative concomitants of old age—namely, vascular sclerosis. "You are as old as your arteries—so why worry?" Men such as John Wycoff have said, "At present no evidence exists that there is any specific mode of therapy which can either cure or affect the progress of arteriosclerosis. This statement is made after careful consideration of the subject and with full realization that to make such a general statement is usually dangerous."

A preliminary report² after nearly two years study on the effect of diethyl oxide (U.S.P. diethyl ether) in the therapy of ischemic states has been pre-

sented for clinical evaluation by the profession. The term diethyl oxide is used because of the adverse psychological effect in patients when the term "ether" is used.

Administration of Diethyl Ether: Both the diethyl ether (anaesthetic ether) and the dilution media should be refrigerated before being mixed. After adding the ether, the solution should be shaken. It is important to surround the infusion bottle with two ice bags. This is important since the vapor pressure of the ether rises rapidly in a warm environment and hence will leave the solution, thereby doing very little good. I use a Huber point No. 21 gauge needle to administer the ether solution. Care should be taken to preserve veins by using careful technique. We are at the present time experimenting with the use of anti-coagulants in the hope of preserving veins longer. This will be reported later.

A patient meeting the criteria of ischemia is given 1000 cc. of a 2½% solution of diethyl oxide. This is equivalent roughly to the addition of twenty-

*From the Clinical Medicine Research Laboratory and the Department of Metabolism, Touro Infirmary, New Orleans, La.

five cc. of diethyl ether to 1000 cc. of dilution media. The dilution media that have been used were standard 1000 cc. flasks of prepared solutions. In the actual necrotizing lesions, a sixth molar lactate solution was used; isotonic sodium chloride for uncomplicated cases; and dextrose in distilled water for arteriosclerotic patients with hypertension.

A course of therapy for patients with non-gangrenous lesions, and suffering from ischemia and unrelenting pain as in claudication, is twenty-four liters of 2½% diethyl oxide. These infusions are given daily. The rate of administration may range from 75 to 105 drops per minute.

Indications for therapy with diethyl ether are two: Pain, and Impending Gangrene. There is no pain as agonizing as the pain associated with advanced arteriosclerosis of the dying limb. In angina, or in tic douloureux, there may be brief periods of respite from pain, but not so with the limb that is famished for blood—here the patient is gradually worn down and eventually demoralized to a state reliance on the opiates. When the opiates fail, as they must ultimately, the tragedy of arteriosclerosis becomes manifested to an extreme degree.

Where pain is the paramount complaint, the patient should receive at least one or two, 2½% ether infusions daily. At the present time I prefer to use 5% glucose in distilled water rather than normal saline. This is especially true for the older cardiac and hypertensive group. A very careful clinical evaluation should be made as to whether or not a patient does or does not have need for an occasional saline infusion. Salt is most definitely needed for the maintenance of the patient's protein and blood volume but one should be careful in not oversalting the patient.

At the present time it appears that a set number of treatments is irrational. Good results have been achieved in severe arteriosclerotics among non-diabet-

ics and diabetics who have received as many as 65 treatments—actual improvement in several cases being delayed for as many as 40 days. The usual response in the average patient, is to see a very definite relief of symptoms in an average of 5 to 7 days.

The plan of treatment³ in acute thrombotic or embolic gangrene would appear to be immediate sympathetic block to release the vasospasm and to protect the leg by allowing the peripheral collateral blood supply to take over. Supplementing this acute process, diethyl oxide is indicated; two liters daily until the actual danger has passed.

Mechanism of Action of Diethyl Oxide

The actual mechanism of action of this agent is not accurately known. A hypothesis is at present being entertained that it works by two mechanisms: Firstly, diethyl oxide may act directly on the smaller peripheral collaterals such as capillaries and arterioles producing vasodilation. Secondly, diethyl oxide may in a manner actually work on the sympathetic nervous system—producing a general effect rather than a regional one as is accomplished by a block?

Surgery in Arteriosclerosis Obliterans—Diabetic Type

A large number of the patients treated were diabetics of moderate to severe grade. Those with actual stigmata of moist or dry gangrene were studied carefully by laboratory means. The following requests were routine: complete blood count, Wasserman, blood sugar, phenolsulphonphthalein test, urinalysis test, electrocardiogram, x-ray of feet and ankle anterior, posterior and lateral views; wound and blood culture if indicated; finally serum protein. A kodachrome picture was made on admission.

Treatment in severe cases with pyrexia was begun as soon as the laboratory work was completed. Daily infusions of diethyl oxide were given; in

addition, each patient was given nicotinic acid 100 mg. three times daily, and polyvitamin capsules. The nicotinic acid was increased daily 50 mg. until a point of tolerance was reached. When a line of demarcation was established, the digit was removed plus the head of the associated metatarsal. This is important. Skin flaps should be loosely sutured. Daily irrigations of the wound with commercial ether⁴ is kept up until the wound is completely healed. Diethyl oxide is continued after surgery until the patient is discharged. The patient may be up in a wheel chair as soon as the acute process is over.

The bacteriologist effect of undiluted commercial ether used as an irrigant has been demonstrated in our laboratory against several of the commonplace contaminants in gangrenous and ulcerated lesions. Aside from the above, the conversion of wet gangrene to dry gangrene results in a less favorable media for bacterial growth. The cleansing effect of ether finally resulting in deodorizing an otherwise extremely malodorous lesion. We are proceeding along this line with animal work which will be reported in the near future.

An important contribution to the actual salvaging of limbs previously doomed, has been accomplished through the introduction of the transmetatarsal amputation of McKittrick⁵. The technique of this operation which removes the proximal heads of the metatarsals allows a very adequate weight bearing foot. Removing the ischemic toes is thought to actually improve the circulatory status.

Prophylaxis

More attention should be given in the physical examination to the circulatory

status of the extremities. A careful note should be taken of the presence or absence of the dorsal pedis or posterior tibial. The patient should be questioned as to claudication cramps. Frequently a patient will only complain of a "charley horse" and ultimately end up with a seriously ischemic limb. I feel that earlier treatment will result in far less serious complications.⁶

Results

To date, the preliminary statistics with this method have been very heartening. The bulk of the patients treated were arteriosclerotics and diabetics. Others that have responded were patients with Buerger's disease, Raynaud's disease, causalgia, and one patient with arterial thrombosis of the subclavian artery.

The most promising single attribute of this simple agent is its ability, when successful, to relieve pain, ischemia and edema. Actual arrest of the necrotic process has been seen and a reparative process begun. No untoward toxic effects from diethyl oxide have been observed.

BIBLIOGRAPHY

- ¹ Katz, Robert A.: Impending Ischemic Gangrene—New Non-Surgical Therapeutic Suggestions. New Orleans M.&S.J. 98:542 1946.
- ² Katz, Robert A.: Preliminary report read at Touro Infirmary Staff Meeting, New Orleans Med. & Surg. Journal 98: 343, 1946.
- ³ Katz, Robert A.: Complications of Diabetes Mellitus. Radio Talk, Orleans Parish Medical Society, Aug. 21, 1946.
- ⁴ Katz, Robert A.: A Preliminary Report of a Medical Treatment of Diabetic Ischemic Gangrene Treated with Diethyl Oxide. Proceedings of American Diabetic Association 1946. In Press.
- ⁵ Joslin-Root White Marble Bailey Treatment of Diabetes Mellitus "Transmetatarsal Amputation," pp. 700-702, Lea Febiger, Philadelphia 1946.
- ⁶ 1 B:d: Treatment of Gangrene, page 696.

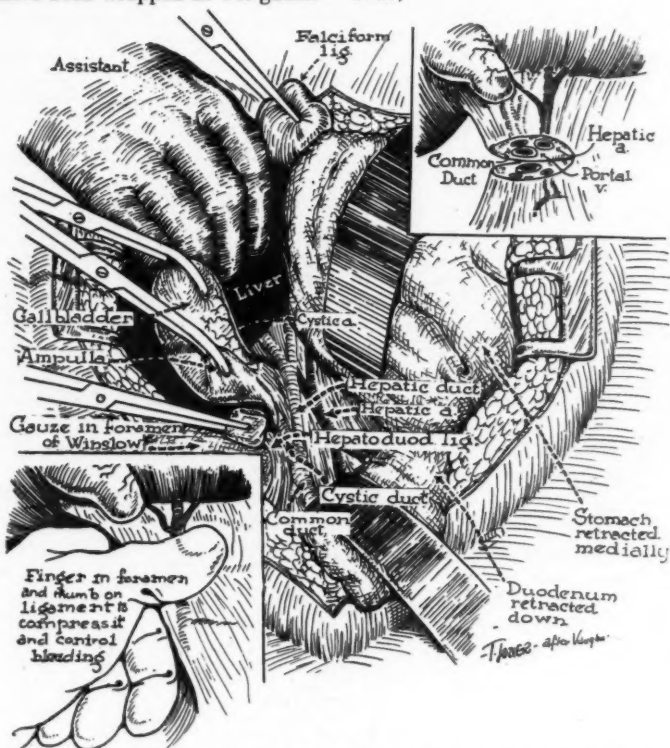
No man is born without faults. He is best who has the fewest.—HORACE

Control of Bleeding During Cholecystectomy

Arkell M. Vaughn, M.D., Associate Professor of Surgery, Loyola University School of Medicine, Chicago, Illinois, suggests that bleeding can be controlled during cholecystectomy (see Fig. 1) by:

1. Placing wet laparotomy packs over the transverse colon and stomach as far as the duodenum, then with a flexible retractor, retracting obliquely downward and to the left so as to flatten the duodenum and expose the bile ducts and blood supply. The liver is retracted upward by an assistant's fingers, which have been wrapped in wet gauze.

2. A strip of gauze is placed in the foramen of Winslow, to prevent blood and bile from entering the lesser peritoneal sac. If bleeding occurs at any time, the left index finger is inserted into the foramen, the thumb is placed on top of the hepatoduodenal ligament and compression applied, thus checking the bleeding. A hemostat can be applied to the bleeding vessel, after one gradually releases compression. (Illustration adapted from *Surg. Clin. N. Am.*, Feb. 1946)



Upper insert indicates the structures to be found in the hepatoduodenal ligament. Lower insert indicates the method of compressing the ligament between the left index finger and the thumb, to control bleeding in the operative field until the bleeding vessel can be identified and clamped.

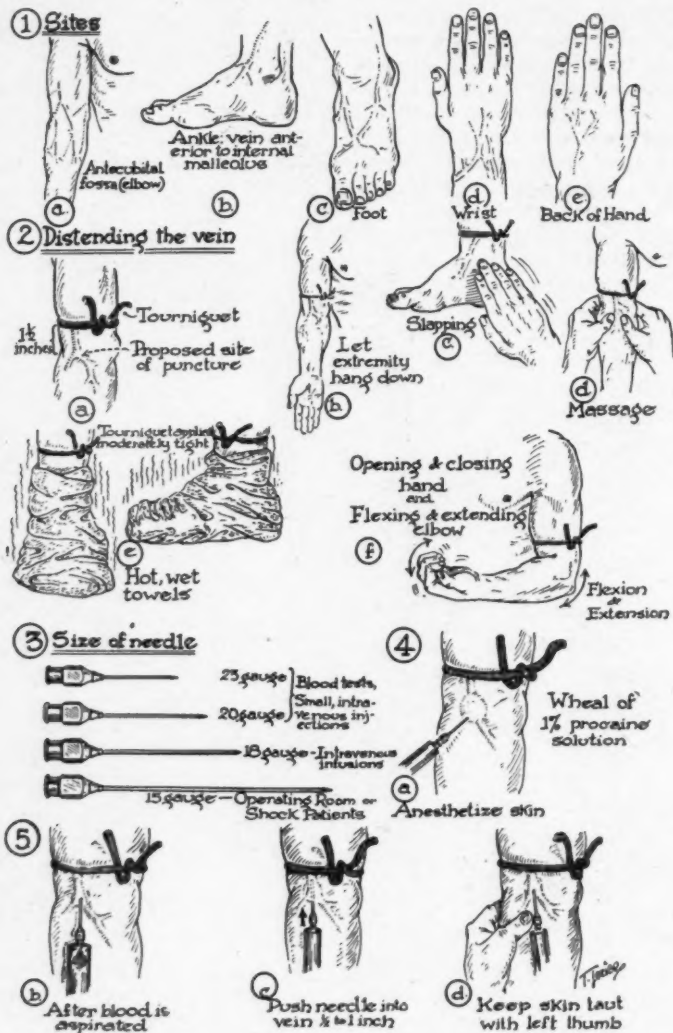
Easier Vein Puncture

Every physician should be able to draw blood for tests, give intravenous injections and administer blood or plasma.

1. Remember that a vein may be used anywhere in the body, including the usual antecubital fossa, the ankle, the foot,

wrist, back of hand or external jugular vein of neck.

2. A fully distended vein is much easier to enter. Take a moment and let the vein fill, or take care of another patient while waiting. Put the tourniquet



Easier Vein Puncture

1½ inches above (proximal to) the site of puncture, to stabilize the vein and to permit maximum compression. Let the extremity hang down, slap it, massage it, apply hot, wet towels to the hand and arm or to the leg and foot and use the muscles actively and passively.

3. For quick administration of blood or plasma, use a large gauge needle (15 gauge) so that clotting will not occur and the patient will receive circulatory volume promptly. 18 gauge needles can be used for glucose or saline infusions. For average office injections and tests, gauges 20 to 23 can be used. Blood can be withdrawn through a gauge 24 or 25 needle but very slowly.

4. For any needle larger than 22 gauge, inject several drops of 1 percent procaine solution into the skin overlying the vein.

5. Thrust the needle quickly through

the skin and into the vein, while skin and the vein are kept taut with the left thumb. When blood is aspirated, push needle into vein for ½ to 1 inch, so that it cannot be dislodged easily.

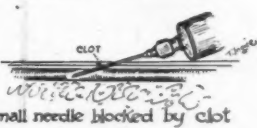
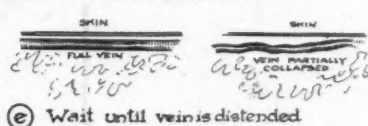
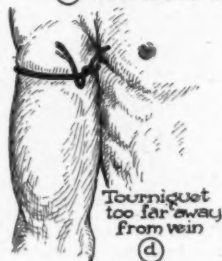
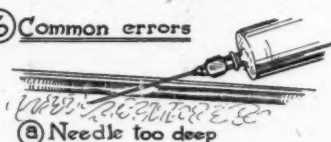
6. Common errors: a. The needle is pushed entirely through the vein; this is very easy to do when the vein lies immediately under the skin.

b. The needle is introduced at a sharp angle to the skin and to the vein.

c. The needle should not be left when only a short distance in the vein. d. Tourniquet is placed too far away from the vein. e. The vein is only partially filled. f. Too small a needle is used.

These suggestions were compiled from the literature and the illustrations made up by *Clinical Medicine's* physicians and artist. Increasing interest in vein puncture is noted in the literature and special credit is due to Lundy and Adams of the Mayo Clinic.

6 Common errors



"Re-formed" Gallbladder

Failure to remove all of the cystic duct may permit dilatation of the remaining portion and formation of a new gallbladder which will again take up stone formation. F. Peterson, M.D., Professor of Surgery at University of Iowa Medical School, Iowa City, Iowa, believes

that this is not a rare occurrence. CLINICAL MEDICINE's artist indicates Peterson's technic, adapted from his sketches.

Biliary colic is the dominant symptom of re-formed gallbladder with indigestion, chills and fever, less commonly encountered.

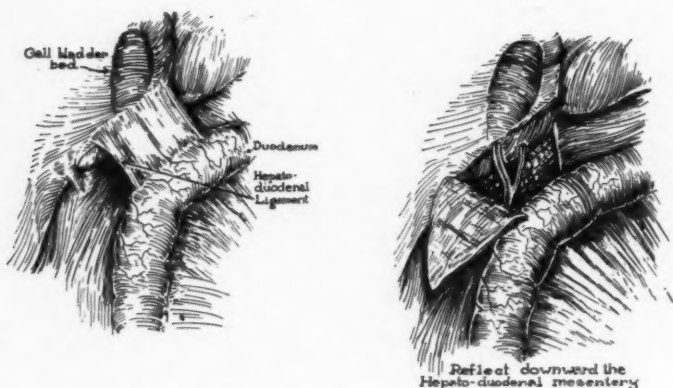


Fig. 1. The hepato-duodenal ligament is reflected downward, as in Fig 2 to expose the common and cystic ducts.

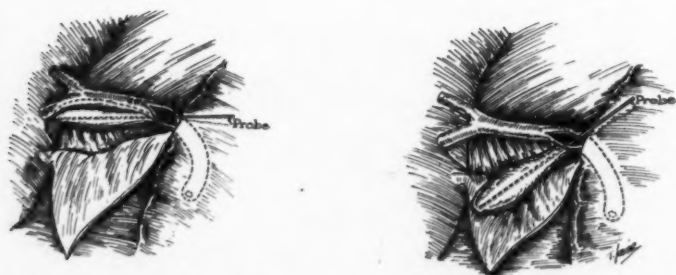


Fig. 3. The re-formed gallbladder is usually not visualized until the common duct has been opened and a probe inserted into the cystic duct. The gallbladder stump is often posterior to the common bile duct.

Fig. 4. The adherent, re-formed gallbladder is carefully mobilized from the common duct and adhesions, ligated and removed.

The Young Doctor

The Technic of Entering Practice

By THEODORE MADAY, M.D., Chicago, Illinois

HAVING practiced for almost twenty years, some of which were hard years testing courage, ingenuity and patience, we can reflect on what I have learned. Human nature does not change, despite all talk of modernization. People behave today as did their forefathers except they do so under a faster tempo of life. They still react to kindness and thoughtfulness, and, if I am not old-fashioned, to the golden rule. It is along the above lines that I would like to have been advised as if I were again a very young man about to begin the art and practice of medicine.

Out of the average graduating class very few young men (or women) are at all in a position either to inherit a practice, become associated with a father who is in active practice or opulent enough to open a first-class ideal office. Most of the men able to start a practice have a limited amount of cash to begin with. Some are helped by the family to start, and for a time thereafter; then they stand alone or if failing, they become assistants or go into various industrial positions.

My following advice is aimed at those who are able to start with a modest amount of capital and some means of subsistence for the so-called starvation months of a beginning practice.

Where to Locate

You can usually find a successful practice in a community you yourself would enjoy living in. This is the first and most important step: Locating in the proper environment in which you can grow and contribute to its growth with honor and dignity. This does not mean necessarily the home-office, except in a few instances if you so desire—the trend is away from the home-

office due to the tendency of an around-the-clock practice under those conditions.

Your Office

By all means locate a desirable house, where an office can be located on its main floor or close to street level.

If you wish to locate on a busy business street, it is better to find a vacant store of the one story variety, which can be subdivided into consultation, treatment cubicles, and so on. If possible, buy the store or get an option to buy during a certain time. Failing this, be on the lookout for a convenient vacant lot close by so that, as your finances grow, you can some day invest in and build the "ideal" office of your dreams. Take this thought into consideration very early and provide for all your future and permanent office needs.

Repeat Calls

After one is located, furnished and started in practice, I found it wise, in my early practice, to make a repeat sick call, after the first personal call was made, as a "courtesy call." People appreciate this extra interest in their welfare tremendously, especially if you do not charge for it. During the first few months, one is rarely so busy that you cannot afford this, and thus become established.

Remembering Birthdays

When taking the histories of your first and, of course, all succeeding patients, get their exact birth dates and of all their children. Send the youngest a birthday card every year. This can be jotted down in advance on your desk memo pad for convenience or in a separate card index, which should be reviewed every month. By all means do

remember the birthdays of all your obstetrical deliveries, and send these a special birthday card every year. I have made it a practice to send to the first-born infant a small gift, along with the card every year, until she or he finished grammar school.

It has also been good practice to decorate the walls of your consultation room with all your babies' photographs—their mothers are proud to provide these pictures.

Pediatrics

If pediatrics makes up a large portion of your practice, it is advisable to have a mirror on the wall right next to the baby examining table. Babies love to watch themselves during examination and it does give you free hands for the period. Inoculations seem to be less painful for the same reasons.

Immunization Reminders

Immunization records and reminders are provided free, and besides jotting appointments on these for mothers, you should make it a point to send reminder cards as well, to arrive the day before their appointment. Fewer appointments are missed, and the mothers appreciate your solicitude for their babies.

Thorough Examinations

Do not hurry your examinations, rather make them thorough, using all the modalities at your disposal, and charge a fee accordingly without fear of it being too much. You will be surprised how many times you will be told "This is the first time I have really been examined thoroughly," and they will be only too glad to pay a reasonable fee for it.

Vacation Announcements

Never absent yourself from the office for a much needed vacation without first sending out cards to all your patients advising them, well in advance, as to the exact dates of your being away and your return. If possible recommend someone for their emergencies during

your absence. Sometimes it is advisable to leave this to their judgment when they ask, thus omitting complaints of dissatisfaction.

The Bedside Manner

The old masters excelled in this phase of the art especially. They used and you can use a great deal of psychology here:

1. Use a cheerful manner, and inspire hope and confidence.
2. Be kind and gentle.
3. Do not be cross or scowling, no matter how you feel or are rushed.
4. Take your time in examining, listen patiently to complaints and symptoms, visit with the patient and the people. Do not hurry in and out, leaving a hurried prescription or a few pills.
5. Use tact and diplomacy and take plenty of time, especially with older people who love to be listened to—here again psychology is necessary, no matter how busy you may be, "fuss" over them and you will get amazing cooperation and results.

Payments for Service

Try from the beginning to get on a cash basis. Collect for your services while patients are grateful, on the spot, whether at home or at the office. Discourage charge business, because it is just as easy to appear hurt if they try to stand you off, and it also lessens your bookkeeping and collection headaches.

In case of surgical procedures, have them sign a contract form in duplicate with you, where a specific amount is charged and either time payments arranged or financed with a company. Do not, if possible, rely on gentlemen's agreements as they are difficult to collect later on.

In obstetrics, because it is not an emergency, arrange enough visits so that a definite amount is paid you each time, and you will have less free deliveries, and the case is closed at the time of hospitalization. The people are then able to pay their hospital charges which they always do, regardless of the doc-

or's fee. The doctor is usually paid last, or not at all.

You should become a member of the local doctors' service bureau as soon as possible. They will audit your books at intervals as requested, collect your bad bills, if they are not too old, at a discount, and have available a list of deadbeats. Your new patients are listed with them monthly, and they can keep you informed of new deadbeats and skips, so you can guard yourself accordingly.

Bookkeeping

If you have no secretary, a good bookkeeping system is very essential, so you can be on a good business basis, know how you stand financially, can quickly refer for income tax purposes and know whether you are making money or losing by too heavy expenditures or carrying too many unpaid accounts.

There are several daily physicians' log or records which can be purchased for a very modest price, and are very complete. A book should be purchased as soon as possible, and a new one should be ready with the new year, every year.

Office Hours

Try to be at your office, emergencies excepted, when you should be there. Do not keep patients waiting for you unnecessarily as this adds to their nervousness and may give you a reputation of being unreliable as to your word.

Rest

Do not burden yourself with too much work which you cannot attend to in full justice to all of those who come to see you. Take care of your own health, so you can better advise those seeking to regain or improve theirs.

Vacations

If you need mental or physical rest or both as is usually the case do so at regular intervals or when it is necessary, according to your judgment. Recognize your own needs and heal thine own body.

Personal Appearance

Always present a neat and a well dressed appearance. Never be guilty of baggy and unpresed trousers or suit, nor an open, tieless collar during business hours. Likewise pay attention to all other details such as hair trim, shoe shine, and so on.

Office Appearance

Your office should reflect the neatness of a man of your profession and should present a neat well ordered desk, instruments, examining table and other of your private modalities.

Consultations

Be ready to recognize your limitations when you are not satisfied with your diagnosis or treatment or when in your opinion the patient is not doing well and request a consultation. This gives you the double protection of another professional man and helps you in a successful conclusion of the case.

Nearby Physicians

In a community new to you, visit and introduce yourself to all of your neighboring doctors, be friendly and enlist their cooperation so that they will try to reciprocate and help you in your early career.

Clubs

Become a member of a few of the best clubs such as the Lions, Rotarians, Executives or some civic groups and take as active a part in their affairs as you can, without straining either your mental or physical self. As a physician you should be a leader in the community in order to gain in prestige and honor by your superior education and knowledge of human nature.

Most of the preceding points have proved very satisfactory in the building of a lasting practice, taking into consideration the fact that you cannot keep all your patients all of the time as some are lost for various reasons, too numerous to mention.

3000 N. Cicero.

Smallpox Vaccination

Despite the frequency with which physicians are called upon to perform vaccination against smallpox, there is a tendency to forget the fundamental facts concerning the interpretation of the reactions obtained. These facts are outlined briefly in the following table:

TYPE OF REACTION	SIGNIFICANCE	APPEARANCE IN		
		2-4 Days	5-7 Days	9-11 Days
NO REACTION	Indicates non-potent vaccine or improper technic.	---	---	---
IMMUNE OR IMMEDIATE REACTION	Indicates active immunity from an attack of smallpox or a successful vaccination.	Macule or papule, no pustule, peak in 48-72 hours.	---	---
VACCINOID OR ACCELERATED REACTION	Indicates partial immunity from attack of smallpox or an old successful vaccination.	Series of events as in vaccinia only milder and more rapid.	Pustule and areola small. Mild or no constitutional reaction.	---
VACCINIA OR PRIMARY TAKE	Indicates absence of immunity to smallpox	No reaction for 2-4 days.	Macule Papule Vesicle	Definite pustule surrounded by areola. Constitutional symptoms.
ALLERGIC REACTION	Momentary immediate reaction to vaccine.	---	---	---

If there is no reaction of any sort on the second and again on the sixth day, either the vaccine was impotent or the technic was faulty and immediate revaccination is indicated. A reaction at these times, whether of the immune, vaccinoid, or vaccinia type, signifies the presence, or development of satisfactory immunity.—CHARLES D. MARPLE, M.D.

EDITORIALS

The General Practitioner's Office X-Ray

More and more physicians are now using roentgen ray equipment in their offices. Results obtained, both in terms of quality of roentgenograms and their practical benefit to the patient, vary widely.

Difficulties: The physician, not being a technician, is often not acquainted with the proper position of the patient to be assumed for x-raying each portion of the body. As a result, films are taken which cannot be interpreted at all, or worse, can be misinterpreted.

The physician, unless he is in close contact with a radiologist, hasn't sufficient experience to interpret many films.

Films of poor technical quality often result from inattention to such details as: 1. measuring thickness of the part, 2. following tables of exact exposure time, 3. using a cone of the proper size for the part and most frequently, proper types of solutions in the dark room.

Solutions: Several books are available which give exact technics for placing the patient, placing the film cassette and the tube. A very usable one¹ lists each part of the body, with a photograph showing the patient, the cassette and the tube position, a tracing made from a roentgenogram indicating structures normally found and on the facing page, the technical factors, and advice as to best methods.

Many radiologists are glad to be used on a consultative basis, usually on a fee basis for interpreting individual cases. In this way, the patient receives the advice of a specialist and the physician learns more about x-ray interpre-

tation and about his patient's condition. The use of a book for interpretation helps one to recognize the normal².

Technical details: Post the table of exposure times on the wall of the room in which the x-ray is located, so that it will not be lost and will be used regularly. Don't guess at time or part thickness, or you will waste films, time and money.

Developing and fixing solutions must be changed regularly, or films will not be sharp. This is a simple matter with the use of already prepared liquid solutions. The tanks should be flushed out or better, scrubbed out, before adding new solutions.

Keep a floating thermometer in the developing solution, and see that the temperature is either kept constant or that the length of time varies with temperature (this information is given on the label of the bottle containing the solution).

Roentgenologists state that the most frequent errors made by the average physician are 1. failure to use a large enough film to include the joint above and below an injury or painful area, 2. failure to take two or three views from different angles, 3. failure to obtain good quality films before making a diagnosis, 4. "snap" or hurried diagnosis, and 5. lack of knowledge of the normal and its misinterpretation as pathologic.

¹McNeill, Clyde: *Roentgen Technique*. Second Edition. Charles C. Thomas. 1946. \$5.00

²Rigler, Leo: *Outline of Roentgen Diagnosis*. Second Edition. J. B. Lippincott Co. \$6.50, or Holmes, George W. and Ruggles, Howard E.: *Roentgen Interpretation*. Lea & Febiger. Sixth Edition.

"I Don't Take Night Calls"

One of the most flagrant and impudent abuses in modern medical practice is the "I don't take night calls" excuse.

An ingenious and highly representable device to sidestep burdensome calls is this: The physician simply expresses his regret at not being able to respond because "I don't take night calls." This is said with an assurance which impresses the patient as logical and final to the point of admitting no further discussion.

The patient often is not rebuffed but may have a sensation of profound respect for the physician as a man who is too dignified and important for night

calls. The patient may call another physician, who naturally refuses to do the night work of his predecessor, whereupon the patient feels indignant at the latter physician.

For two physicians to treat the same patient independently, one by day and the other by night, is absurd and poor medical practice. If the second physician makes the call, he may be considered as available when better doctors are not.

In such a case, it might be best to tell the patient that a physician owes a duty to his patient which does not end with office hours.

The "Busy" Doctor

All of us, instinctively, try to live up to what other persons feel and say about us, or, as Shakespeare has said, "All the world's a stage" and so on.

For some reason, the concept has arisen that a busy physician, namely, one whose office is always crowded and who rushes busily from person to person and point to point, must be a good one—or why would he have so many patients? This same type of reasoning believes that a busy store must be better, a big one must be better than a small one, and so on.

As far as the minor *illnesses* of life are concerned, it is of little importance how much time and thought are spent on them, assuming no serious impending condition is overlooked. When a patient enters your office, however, complaining of a serious sign or symptom, such as definite loss of weight, abnormal breathing, persistent cough, unexplained pain, or true weakness, that patient needs some quiet consideration, a careful history, a well-performed physical examination, and usually several tests are required. If this patient is

rushed through with a group of others suffering from minor or obvious conditions, his best interests are not being served, nor are yours, because you will tend to become superficial, you will forget the orderly steps in making an important diagnosis and eventually you will become one of those poor derelicts of medicine who are only interested in treatment.

It has been said that medicine has three important principles—first, make the diagnosis—second, make the diagnosis—third, confirm the diagnosis. While not literally true, it must be remembered that a treatment, or a rifle, must be aimed directly at the object.

Watch out that in your endeavor to be as the public would like you to appear, you do not become an automaton, always busy and yet doing little that is constructive.

P. S. Don't forget your happiness, your family, and your chance to live like a human being. You can't have everything in life. Do you wish the superficial appearance, or do you wish the real stuff of which life is made?



CLINICAL NOTES AND ABSTRACTS

Melanoma and Malignancy

P. S. Putzki (*Med. Annals Dist. Columbia*, XV, 318, July 1946) presents three cases of malignant melanoma which followed inadequate electrodesiccation of moles on the head and neck. Benign and malignant moles (benign melanoma or pigmented naevus and malignant melanoma or melanotic sarcoma, melano-epithelioma, melanocarcinoma may be indistinguishable on gross inspection and many innocuous appearing lesions may simulate or may be malignant (Boyd).

The pigmented mole (nevus) which is the source of the melanoma appears as a minute pigmented spot or soft, flat elevation with, often, a warty or papillary excrescence. The color is usually light brown to black, but the nevus may be unpigmented. Many bear soft or coarse hair. They are usually soft, but become hard. Originally thought to be of mesodermal origin, they were called sarcomas when malignant, but the present view is that they consist of neuroepithelial cells, perhaps in congenital nests, and the neoplasms are rightly defined as melanotic carcinomas. The neuroepithelial cells are melanoblasts with the ability to produce melanin (the presence of pigmentation depends upon the production of melanin). Not all such tumors, whether benign or malignant, do produce pigment. Malignant changes occur either spontaneously or following trauma. Ordinarily lesions which become malignant show characteristic gross and histological changes, especially of increased vascularity, but occasionally benign appearing lesions will be the source of metastatic growths. The metastases as well as the primary lesion may or may not be pigmented.

Locations

In a high percentage of cases a pigmented mole precedes the development of a malignant melanoma, and there is a common history of the lesions having been inadequately treated by a physician. The malignant lesions may occur on any part of the skin and at any age. They are somewhat more frequent in the female. Although most common on the skin, they may occur in various organs of the body, especially the pigmented areas of the eyes, the anus and the supra-renal gland. No matter what the site, the majority arise within a preexisting pigmented nevus. Extension occurs directly, or through the lymphatics, or blood vessels; in lymphatic spread the regional lymph nodes are involved.

Danger Signs

Moles may long remain quiescent and then become malignant because of stimulation or spontaneously. Signs of increased activity include: sudden increase in size and vascularity, darkening in color, superficial ulceration and bleeding (Boyd). There may be elevation of the surface, induration, radiation of pigmentation, or satellite formation. The lesion which appears during life and grows obviously is most apt to become malignant (Blair). Moles which are exposed to irritation should be excised since, once metastasis has occurred, excision is ineffectual. Complete excision is absolutely essential. In general all lesions exposed to irritation (from clothing, shaving, braces, trusses, scratching, combing hair, sun rays, etc.: those located on the head and feet) and all smooth black (slate blue and brown to jet black) nevi should be excised.

Treatment must include wide excision to include a good area of normal skin and subcutaneous tissue. Biopsy is not advisable because of the danger of spreading malignant cells. For the same reason electrocautery and desiccation are decried. Malignant melanoma is comparatively resistant to radium and roentgen therapy although massive doses of irradiation following excision is indicated where metastasis is suspected. The average duration of life with melanotic carcinoma is less than three years. Any reduction in the high mortality of such lesions depends upon the early diagnosis of malignant change in moles and the thorough excision of such primary lesions before spread has occurred.

Intestinal Obstruction Due to Ureteral Stone

A stone impacted in the ureter may cause all the symptoms and signs of intestinal obstruction, with enormous abdominal distention and an x-ray which indicates colonic and even small bowel distention with fluid levels. If a catheter can be passed up the ureter, usually the left one, pain is relieved at once and gas is expelled from the rectum. Enemata are ineffectual. The Miller-Abbott tube may be used to relieve the reflex ileus and the stone may be removed extraperitoneally.—PAUL W. ASCHNER, M.D. in *Rev. Gastroenterology*, July-Aug. 1946.

Sulfonamides for Otitis Media

During the current tendency to under-rate the sulfonamides, their many beneficial effects are being overlooked. Many otologists have commented on the reduced number of cases of otitis media that they are consulted for and the marked drop in mastoid operations. Howard P. House, M.D. of Los Angeles, California (*Archives of Ophthalmology*, April 1946) compared the admissions for otitis media in 1935 and in 1943 to Los Angeles County General Hospital. There was a decrease in 50 percent in number of patients whose ears discharged for more than 3 days; a 30 percent decrease in number requiring mastoidectomy. Otitic meningitis formerly had a mortality rate of 90 percent; in 1943 it was 15 percent.

Dangers of Traction

Great care is necessary to avoid over-tight clovehitch traction to the bare of booted foot. Subsequent amputations were found necessary because of gangrene due to too tightly applied clovehitch traction and subjected to excessive traction in the field where continuous observation was impossible.—H. R. HUSTON, M.D. in *Bulletin of American College of Surgeons*.

(Yet the Red Cross teaches it to laymen. Ed.)

Cervical Cancer

As a rule, a local recurrence of uterine cervical cancer in a patient primarily cured by radiation therapy cannot be cured by the additional application of radium. The best results in such cases are obtained by radical hysterectomy, if the patient is exceptionally well suited for operation, or to an electroendothermy operation.—Mississippi Valley Med. Jour., July, 1946.

Peptic Ulcer: Sex Differences

The clinical connotations of the differences in the behavior of the gastric acids in men and women with ulcer:

The findings suggest that one of the explanations of the fact that men have ulcers so much more frequently than women, as well as of the intractability of ulcer in men, is the behavior of the gastric acids. Also, the ease of control and the lesser tendency to recurrence on the part of women put on either medical or surgical treatment are probably explainable on the basis of these findings.—ANDREW B. RIVERS, M.D., Mayo Clinic.

Bal for Mapharsen Reaction

Bal in oil is an effective treatment for mapharsen reactions. In 61 cases of serious reactions (toxic ancephalopathy with convulsions, disorientation, increased cell count and protein in spinal fluid; blood dyscrasia with purpura, aplastic anemia; dermatitis), 2½ mg. of bal per kg. of body weight was given every 4 hours for 4 doses, then daily for 6 days.

Nausea, burning of eyes and mouth, "tightness" in chest and throat, are transient symptoms and require no treatment.

Peritoneal Irrigation for Uremia

Continuous irrigation of the peritoneal cavity can remove crystalloids from the blood as effectively as the kidney and can sustain life in uremia for many days, until renal function is resumed. An inlet (mushroom catheter) and outlet tube (stainless steel sump drain attached to continuous suction) are introduced into the peritoneal cavity under local anesthesia. Sterile Tyrode's solution plus penicillin for bacteriostasis, heparin to prevent fibrin deposition and glucose, is introduced into the peritoneal cavity by gravity at a controlled rate for maximum urea clearance from the blood and drained out by the outlet tube as rapidly as it collects. Large volumes are needed (20 to 35 liters daily).—JACOB FINE, M.D. (Department of Surgery, Harvard Medical School, Boston) in *J.A.M.A.*, March 16, 1946. (Tyrode's solution contains sodium chloride 0.800, potassium chloride 0.020, calcium chloride 0.020, magnesium chloride 0.010, monosodium phosphate 0.005, sodium bicarbonate 0.100, glucose 0.100, water to 100.0—Ed.)

Bronchial Carcinoma

A normal roentgenogram of the chest cannot be relied upon to rule out completely, significant disease, particularly of the tracheobronchial tree. The presence of bronchial lesions, although uncomplicated by infection, atelectasis or emphysema, may be suspected from the clinical history. In some cases of bronchial carcinoma, a persistent rhonchus (heard best over the affected bronchus) may be heard. Detection of this sign strengthens the suspicion and despite a normal roentgenogram, calls for further investigation of the lungs.—ABRAHAM G. COHEN, M.D., in *New York S. J. M.*, July 15, 1946.

Eye Distress

Fatigue or "heaviness" of the eyes and difficulty in reading, especially by artificial light, difficulty in opening eyes and "pricking" when first opened in morning, may be symptoms of decreased secretion of tears.

The conjunctiva and cornea may be normal or there may be congestion of the conjunctiva and a few tiny dots (visible on staining with fluorescein) or

fine edema of the cornea. The eyelid adheres a little more than usual.

There may be associated dryness of mouth, dental caries and loss of teeth and slight chronic arthritis of fingers.

Treatment: Replacement of tears by Gifford's solution (gelatin 0.3; chlorbutanol 0.3; Locke's solution 30 cc.). Coagulation of tear ducts conserves scanty tears available. Estrogenic therapy may relieve symptoms.—ANDREW DE ROETH, (Spokane, Washington) in *Journal-Lancet*, Dec., 1945.

Gonorrheal Ophthalmia

Gonorrheal ophthalmia (ophthalmia neonatorum) can be prevented by dropping 1 percent silver nitrate solution or silver acetate solution into the eyes of the newborn infant. (Silver acetate is less soluble, so there is less danger of using a concentrated, injurious solution).

Treatment: Sulfadiazine in doses of 1 gr. per pound of body weight cures most cases. Penicillin, locally and by injection, should then be tried with artificial fever therapy reserved for the occasional resistant case.—CONRAD BERENS, M.D., (Columbia University, New York, N.Y.) in "The Doctors Talk It Over" (Lederle) Sept. 11, 1945.

Surgical Exploration of the Jaundiced Patient

I do not believe that all patients with carcinoma at the head of the pancreas have pain early in the disease. Some of my own cases have declared that they have no pain. However, I do not believe that we can definitely state that painless jaundice is always an indication of cancer.

Any patient in which an obstructive jaundice is suspected should be referred to a surgeon as early as possible. Certainly I would not care to state that any patient with jaundice should be explored after six weeks, since an occasional case of hepatitis may have a prolonged jaundice.

It is of extreme importance that internists appreciate the importance of jaundice associated with carcinoma of the pancreas and refer such patients to a surgeon just as soon as he is suspicious of such a lesion.—THOMAS G. ORR, M.D., Kansas City, Kans., University of Kansas Medical School.

Treatment of Secondly Infected Dermatophytosis

The treatment of acute secondarily infected dermatophytosis, dermatitis, eczema and similar lesions should include:

1. Parenteral injection of penicillin except possibly in cases of secondarily infected dermatophytosis where penicillin may be applied locally. Sulfonamides should not be applied locally.

2. Undue activity and trauma of the affected part by shoes or clothing should be avoided so far as possible.

3. Non-irritating mildly antiseptic soaks or compresses are useful. They may be used frequently but the diseased skin should have adequate exposure to the air several times a day. Gentle mechanical removal of skin debris is important.

4. If penicillin is not effective within 72 hours a change to a sulfonamide compound (sulfadiazine or sulfamerazine or both) administered orally should be carried out together with some other local, non-irritating antiseptic therapy.

5. If there is an underlying dermatophytosis, a undecylenic acid preparation should be used. One should not use irritating fungicides.—DONALD M. PILLSBURY, M.D. in *J.A.M.A.*, Nov. 23, 1946.

Chronic Deep Ulcers

While bacterial infection is often chiefly responsible for chronic deep ulcers, a thorough general medical study of the patient is absolutely essential. Bacteriologic study of the lesion should be thorough with culture by both aerobic and anaerobic methods. Such patients should never been treated with penicillin by injection, until the result of the serologic test for syphilis is known, or, at least, blood has been taken for it.—DONALD M. PILLSBURY, M.D. in *J.A.M.A.* November 23, 1946.

Paroxysmal Auricular Tachycardia

The arrhythmia of uncomplicated paroxysmal auricular tachycardia may be abolished by the administration of potassium acetate in doses of 2 grams four times a day.—H. EICHERT, U. S. *Naval Med. Bull.*, 46, 405, 1946.

Lead Poisoning in Children

In general children's toys, play pens, high chairs and other furniture, as manufactured in this country are not painted with paints of high lead content. Industry and manufacturers in general have recognized the hygienic problem and have avoided it for a number of years. Small shops, however do not always recognize this situation, and there may be a small distribution of lead painted toys.

Baby's cribs and play pens may be repainted by the owner, and here the owner, without thought of the danger may use paint of high lead content.

Certain imported toys, particularly those painted with bright yellow colors molding sets in which metal is melted and poured into molds to make small objects, may be sources of danger.

We have seen one or two cases of lead poisoning from the use of lead nipple shields by nursing mothers.

Another source of poisoning in children, and also in adults, has been the use, in poor households, of battery boxes for fuel. This wood heavily impregnated with lead salts when burned, in a stove or fireplace under suitable conditions, gives rise to lead fumes in the atmosphere, exposure to which has produced a rather large proportion of cases in this country. We have seen a number of cases in Cincinnati, one or two which have been fatal.

Small children crawl about on the floor and contaminate themselves generally with any kind of dust or dirt that is within their environment. Eventually everything they get on their hands goes into their mouths, and therefore considerably greater opportunities exist for the dangerous exposure of small children to a variety of lead containing materials that have no important influence on the adult with more circumspect personal habits.

Children being more susceptible to the effects of lead absorption than are adults makes clinical lead poisoning a more serious disease to children than to adults, generally speaking. Contamination of household water, in some parts of the world, with lead compounds is more likely to affect children than adults. This is not an important matter in the United States, for our water supplies are gen-

erally handled in such a way as to avoid significant lead contamination. However, improvised and homemade arrangements for the storage and distribution of water in the household may result in some danger and should be taken into account.

The therapy of lead poisoning, especially in the case of children, is rather poor. There is no specific treatment that offers any hope for dramatic results. Avoidance of lead poisoning is still the only satisfactory answer. Treatment, in the main, consists of the complete elimination of exposure. Otherwise, the treatment consists in taking care of presenting symptoms as adequately as possible during the period required to eliminate the source of trouble.—ROBERT A. KEHOE, M.D., Cincinnati, Ohio.

Treatment of Burns

A "row" of sterile Kotex pads are placed over the burned area, then firm elastic pressure obtained by applying elastic adhesive tape (elastoplast) over the pads. This dressing provides pressure and elastic compression of the burned site and prevents loss of serum. The pads are placed over contact gauze and both may be sterilized in an autoclave.—DR. L. M. WILLIAMS, Moravia, Iowa.

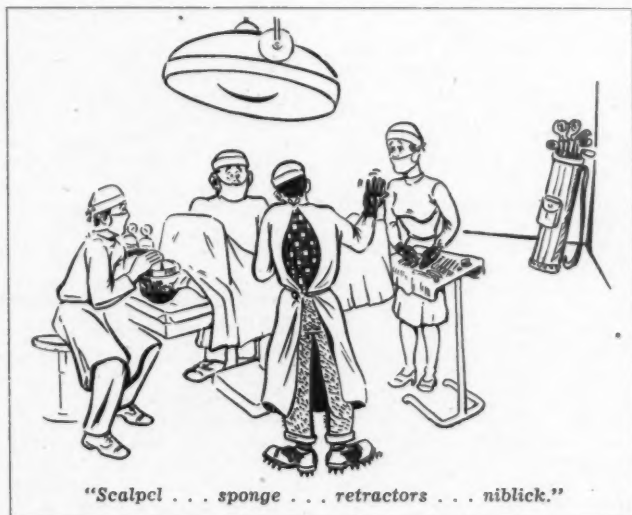
Hydronephrosis

Nephrosis is commonly a bilateral disease. In many instances there may be surgical correction of the hydronephrosis or of the obstructive lesion responsible for it. Two-thirds of the diseases requiring surgical intervention and congenital malformations of the kidney may be treated by partial nephrectomy. Total nephrectomy in hydronephrosis should be carried out only when it can be demonstrated that the drainage system is completely destroyed beyond recovery and in a renal disease when it can be shown that the kidney is utterly worthless.—A. D. MUNGER, M.D., J.A.M.A., Nov. 23, 1946.

Gastrosocopy

I do not consider that gastrosocopy should be a routine method of examination but should be reserved for the study of: (1) gastritis, (2) cases of unexplained gastrointestinal bleeding, (3) cases where x-ray examination is doubtful and further information is needed to aid in the differential diagnosis.

Gastrosocopy is an excellent means of supplementing x-ray examination. In certain instances the roentgen examination appears to be superior to gastrosocopy and in other cases gastrosocopy



"Scalpel . . . sponge . . . retractors . . . niblick."

appears to be superior to the roentgen ray. Greater diagnostic accuracy is attainable when both methods are used cooperatively than when either method is used alone. For further detail, I would like to refer you to the following:

1. Benedict, E. B.: Limitations of Radiology and Gastrosocopy in Diseases of the Stomach; An Analysis of 53 Proven Cases. Presidential Address. American Gastroscopic Club. To be published in *Gastroenterology*—in press.

2. Benedict, E. B.: Correlation of Gastrosocopic, Roentgenologic and Pathologic Findings in Diseases of the Stomach: An Analysis of 245 Proved Cases. Pancoast Lecture. *Am. Journal of Roentgenology and Radium Therapy* Vol. LV, No. 3, March 1946.

3. Benedict, E. B.: A Critical Review of Gastrosocopy. *Bulletin of the New York Academy of Medicine*, Vol. XX, pp. 179-189, March, 1944.

4. Schindler, R.: *Gastrosocopy. The Endoscopic Study of Gastric Pathology.* University of Chicago Press. June 1937. —EDWARD B. BENEDICT, M.D., Harvard Medical School, Boston, Mass.

Simplified Intestinal Tube

When one wishes to decompress the bowel, one need only take a rubber tube with a lumen of 3/16 inch and tie a condom on the end so that 2½ inches will protrude.

Before use, the patient is given one-sixth grain of morphine sulphate and 1/150 grain of atropine sulphate. The nose is anesthetized; the patient throws his head well back; the condom is inserted into the nose, and the mercury is permitted to run into it, through one of the holes in the tube. When the entire condom is in the nose, the weight of the mercury will pull the tube down the nasopharynx. The patient sits up and drinks some water which facilitates the rapid passage of the tube downward through the esophagus into the stomach. The patient lies on his right side with the foot of the bed elevated for two hours. The weight of the mercury causes it to pass through the pylorus and then peristalsis carries it through the rest of the intestinal tract. There are three series of four oblong holes placed at intervals in the tube so that the entire intestinal

tract may be decompressed simultaneously.—MEYER O. CANTOR, M.D. (Grace Hospital, Detroit, Michigan) *Amer. J. Surg.*, July, 1946.

Headache from Temporal Arteritis

Temporal arteritis is an acute, or subacute, febrile illness of unknown etiology, affecting elderly persons and characterized by a granulomatous type of inflammation of the temporal and other arteries of the head. It was first described by Horton in 1932 and about thirty-five cases have been reported in the literature since that time. The average age of patients reported is 66 years. Women are affected about twice as often as are men.

The chief symptom is pain, often severe and ordinarily constant, chiefly temporal in location and present long before any inflammatory process is evident. Fever is usually present from the beginning and tends to persist for periods of months. The single diagnostic finding in an otherwise unrelated physical examination is the prominence, induration, nodulation and tenderness of a segment of one or both temporal arteries. The majority of cases have exhibited a moderate hypochromic anemia, a mild polymorphonuclear leukocytosis and a much elevated erythrocyte sedimentation rate.

Treatment: Symptomatic or resection of the segment of temporal artery involved. Potassium iodide and arsphenamine have been suggested by Horton and Magath (*Proc. Staff Meet., Mayo Clinic*, 7, 700-01, Dec. 7, 1932) while the author suggests periarterial infiltration with local anesthetics or periarterial sympathectomy.—D. A. DANTES, *J.A.M.A.*, 131, 1265-69, Aug. 17, 1946.

Post-Operative "Pneumonia" and "Heart Failure"

The surgeon is largely responsible for deaths such as pneumonia and heart failure, because he overhydrates and overchlorinates his patients. The patient retains fluid and develops pulmonary edema. Fibrillation occurs followed by congestive failure. The cardiologist is called in and gives the patient digitalis

and when fever develops, a sulfonamide and penicillin are given. This is the time to weigh the patient. Such patients may exhibit a gain in weight representing a ten to twelve per cent increase. One should stop the administration of salt and fluid until the gained weight has been lost. This usually results in a spontaneous reduction of the fever and heart failure, which the specifics were unable to accomplish.—OWEN H. WANGENSTEEN, M.D., in *West. Surg., Ob. Gyn. Dec.*, 1945.

Allergic Fatigue

I was glad to receive your comment on the subject of allergic fatigue and am in whole-hearted agreement that it is almost invariably overlooked by the man in general practice as well as by many in specialized practice. The failure to recognize the clinical aspect of allergy or other new fields, unfortunately is a common failing of editorial boards dominated by older members.

It is difficult for me to answer your question, "In what way would you suggest that the general physician be on the alert for such cases?" 1. The descriptive features of the fatigue picture are often diagnostic, that is, the morning accentuation and other points which I attempted to describe in detail must be differentiated from the fatigue resulting from physical exertion, anemia and so forth. 2. The second point in detecting it is almost invariable association with chronic allergic symptoms such as; perennial allergic rhinitis (so-called "sinus," "catarrh," "frequent colds"), gastro-intestinal allergy or allergic headaches. Unfortunately, the allergic etiology of these manifestations is not recognized by the profession anywhere approaching the incidence with which they exist. The question of differentiating this condition from the "chronic complainer" is difficult, but usually may be made. In my experience a great many of these patients have been classified as "chronic complainers." If psychosomatic disease actually exists in a patient who also has an allergic background, I am unable to evaluate the functional aspects of the case until a period of allergic management has been tried.

The best elimination diets readily

available are Rowe's as published in the latest edition of his book, "*Elimination Diets and the Patients' Allergies*," (Lea & Febiger, 1944). Of the diets he lists, his cereal-free, fruit-free elimination diet 1-2-3 is the best single elimination diet for the greatest number of patients. However, this diet, as well as all others in his book, do not completely eliminate corn. Sensitivity to corn is second only to wheat as a major cause of chronic food allergy, and unless corn products are completely eliminated, symptoms from corn sensitivity will not disappear. I am using a series of elimination diets which meet these requirements. They have not been published as yet, pending further use.—THERON G. RANDOLPH, M.D., Chicago, Ill.

Gastric Aspiration

Question: Of what value is aspiration of the stomach in an attempt to find tubercle bacilli? R. L. Smith, M.D.

Answer: Gastric aspiration should be reserved for those cases where sputum specimens cannot be obtained. This is especially true in children and in the occasional adult who cannot raise sputum.

In studies carried on in an adult tuberculosis ward, it was found that if no tubercle bacilli were obtained in ten consecutive daily sputum specimens, no tubercle bacilli could be found in gastric washings. Gastric lavage cannot be considered as diagnostic as sputum examination. It must be remembered that the sputum examination must contain sputum raised from the lung, rather than saliva or other secretions from the mouth or throat. It is much easier on the patient to cough into a jar than it is to have repeated gastric washings. There is a tendency on the part of both patient and physician to feel that when an uncomfortable procedure, like gastric washings, is carried out, that the ultimate step in diagnosis is being attempted, and a report of failure to find tubercle bacilli tends to make both of them feel that active tuberculous infection is not present. *The test, like any other laboratory test, is of little value when negative.* To be employed, the gastric aspiration must be done in the morning, before food is taken.



THUMBNAIL THERAPEUTICS

Simple Diabetic Diet

One-third of the carbohydrate content is furnished by one slice of bread three times daily. Another third can be accounted for by an orange or its equivalent at a meal. The final portion can be supplied by 4 liberal portions of low-carbohydrate vegetables, a half-pint of milk and cream and a dish of cereal. This totals 150 gm. Some diabetics need more than this, a few need less.

Protein foods (meat, eggs, fish, cheese) are allowed in moderation according to the patient's age. Fat must be adjusted to the weight of the patient.—E. P. JOSLIN, M.D. in "The Doctors Talk It Over" (Lederle Laboratories, Publishers).

Diramin for Granuloma Inguinale

Diramin, an antimony preparation, given intravenously in 2 c.c. amounts 3 times per week, is safe, effective agent for treating granuloma inguinale. Penicillin was ineffective; fuadin in doses of 5 c.c. was more effective.—R. B. GREENBLATT, M.D. (Southeastern Medical Center, Savannah, Ga.) in *J. Venereal Dis. Inform.*, Nov., 1945.

Intravenous Morphine

Pain is relieved more quickly by intravenously administered morphine, the effect is more certain and lasts longer: it is effective within a few seconds and most effective within 5 minutes. Subcutaneous morphine takes from 60 to 90 minutes to be most effective. *Dosage:* Inject slowly, stop when pain is relieved. From $\frac{1}{4}$ to $\frac{1}{2}$ gr. is dissolved in 2 cc. of water and injected at the rate of 1 cc. per minute. Injection is temporarily stopped if dizziness, tinnitus, nausea or substernal pressure appears, then resumed when the symptom disappears.—HUGH SMITH, M.D. in *J.M.A. Alabama* Aug. 1945.

One-Dose Penicillin for Gonorrhea

A single intramuscular injection of 1.0 c.c. of a mixture containing 300,000 units of penicillin in 4 to 6 percent beeswax by volume in peanut oil cures 90 percent of patients with gonorrhea.—W. LEIFER, M.D. in *New England J. Med.*, Nov. 15, 1945.

Penicillin in Chronic Leg Ulcers

Excellent results in the treatment of indolent varicose ulcers of the legs with solutions of penicillin have been reported by D. L. Lovell (*Arch. Surg.*, 51, 22, August 1945). Gauze dressings saturated with solutions of 500 units of penicillin per cc. of isotonic saline are applied to the lesions and covered with Unna paste boots extending from the base of the toes to just below the knees. Dressings are changed twice a week. Chronic undermining ulcer, a similar type of lesion, has been treated similarly and successfully by A. LEACOCK, M.D. in *Brit. Med. Jour.*, Dec. 1, 1945.

Diabetic Instruction

In diabetes, careful instruction of the patient is the keystone of treatment. Secretaries, nurses and technicians must be able to teach patients the Benedict test, simple dietetic values and how to self-administer insulin.—JOSLIN.

Gonorrhea-Syphilis

Patients with gonorrhea should have a thorough physical examination and blood Wassermann test before receiving penicillin to rule out syphilis. If fever develops during the course of penicillin therapy, syphilis should be suspected.—ALLEN WALKER, M.D. (U.S. Public Health Service, Denver) in *J. Venereal Dis. Inform.*, Nov., 1945.



DIAGNOSTIC POINTERS

Eruptions on the Hands

Foods and drugs should be considered in the differential diagnosis of dermatoses of the palms of the hands. Sulfonamides and especially sulfapyridine, iodine and bromine compounds, arsenic and gold compounds and insulin are frequent causes. Since the majority of these agents are used in treatment of chronic diseases, a careful history must be taken regarding self medication. Patients frequently believe that they have a fungous infection. Other infections may cause palmar dermatitis.—H. H. ANDERSON, M.D. (University of California Medical School) in *J. A. M. A.*, Nov. 10, 1945.

Diagnosis of Pregnancy

A persistent high temperature (99.0°F. or higher) on waking, for more than 16 days, is characteristic of pregnancy. Sudden falls in such temperature may signal a threatening miscarriage.—MARY CARTON, M.D. in *Lancet* (Eng.), Dec., 1945.

Brucellosis: Clinical Notes

1. Brucellosis (undulant fever) causes muscle and joint pain, stiffness and tenderness. It does not cause hyperphoric arthritis.
2. Brucellosis may be responsible for rheumatic symptoms. It may cause rheumatoid (infectious) arthritis.
3. A diagnosis of chronic brucellosis should be challenged until psychoneurosis has been ruled out.
4. Brucella (undulant fever) infection may be a cause of chronic ill-health.—WARD DARLEY, M.D., University of Colorado Medical School.

Don't monkey with the ovary; either remove it or leave it alone.—William Mayo.

Nervousness and Fatigue

Indigestion, nervousness, easy fatigability and sore mouth or fissures at the corners of the mouth may be due to iron deficiency and entirely relieved by ferrous sulfate 3 gr. three times daily.—WILLIAM J. DARBY, M.D. (Dept. Medicine, Vanderbilt University, Nashville, Tenn.) in *J. A. M. A.*, Mar. 30, 1946.

Postoperative Nervous Symptoms

Central nervous system symptoms (coma, stupor, restlessness, drowsiness, weakness, thirst, flaccid paralysis and Babinski sign) may be due to a low blood sugar level. Intravenous and oral dextrose should be given.—D. W. BLOOD, M.D. in *J.A.M.A.*, Feb. 23, 1946.

Injuries Due to a Fall

Suspect fracture of the os calcis after a fall in the standing position, even when there is no deformity of the foot. Also suspect fracture of the spine after every injury of this nature. Do not manipulate the foot for several days or even apply plaster of paris, until the bogginess of the heel has subsided with rest and elevation in bed.—"Fractures and Dislocations for Practitioners,"—EDWIN O. GECKELER, M.D. (The Williams & Wilkins Company).

Forty per cent of "gastric" ulcers are in the duodenum.—William Mayo.

Drowsiness and Stiff Neck

Drowsiness, stupor, pain and stiffness in the cervical vertebrae may simulate meningitis closely, yet be due to acute rheumatic fever.—D. R. ROSENBERG, M.D. in *New Eng. J. Med.*, Jan. 31, 1946.

NEW BOOKS

Any book reviewed in these columns will be procured for our readers if the order, addressed to **CLINICAL MEDICINE**, Waukegan, Ill., is accompanied by a check for the published price of the book.

Diagnostic Examination of the Eye

By Conrad Berens, M.D., Professor of Ophthalmology, Columbia University, N. Y. C. and Joshua Zuckerman, M.D., Instructor in Ophthalmology, New York University, Lippincott. 1946. \$15.00.

A step-by-step technic for every examination of the eye itself, for refraction and for recognition of various lesions and disease processes. Hundreds of colored, and black and white illustrations make the text clear. All modern instruments and their use are presented. Full detail is given concerning physical examination of the eye and related structures, including the nervous system.

The American Hospital

By E. H. L. Corwin, Ph.D., Public Health Relations, New York Academy of Medicine, N. Y. C. Commonwealth Fund. 1946. \$1.50.

A complete, well written survey of our hospitals, how they came into being, why there is an increasing demand for them, how they are financed, how they are distributed, their relationships with physicians (and especially, why staff physicians are not paid for their services by ward patients), how they are constructed, trends in hospital administration and new courses being offered to train hospital directors. One statement seems significant: "In the future, there will be no excuse to make a major hospital staff appointment from among any except those who have met the standards of their respective specialty boards."

Peripheral Vascular Diseases

By Edgar V. Allen, M.D., N. W. Barker, M. D. and Edgar A. Hines, M.D., all M. S. in Medicine, Mayo Clinic, Rochester, Minnesota. W. B. Saunders Co. 1946. \$10.00.

A complete resume of disease of the peripheral arteries, veins and lymphatics. The chapter on recognition of arterial disease in the extremity is worthwhile for the clinician who wonders if he is overlooking this diagnosis in his older patients. Diagnostic pointers include, "Abnormal changes in skin color with change in posture occur only in occlusive arterial disease." Chapters discuss each aspect of vascular disease, including surgical techniques for treatment of both major and minor lesions.

Renal Diseases

By E. T. Bell, M.D., Professor of Pathology, University of Minnesota, Minneapolis. Lea & Febiger. 1946. \$7.00.

In the never-never land of kidney diseases, the

pathologists and the clinicians have too long been separated. Here is a pathologist with a clinician's viewpoint who correlates lesions and their clinical relationships. Uremia (azotemia) from causes other than kidney conditions, including dehydration, hemorrhage into the gastrointestinal tract, postoperative oliguria, and posttraumatic diabetic coma, is discussed with the frank admission that many cases are not understood. Hypertension is well presented. The illustrations of renal lesions are excellent.

Eye Health

A Teaching Handbook for Nurses. 1946. National Society for Prevention of Blindness. 1946. Paper. \$1.60.

A satisfactory, well written summary of what the eye is, how it functions, how it may be examined, what steps are necessary in preparing solutions and instruments, and how vision may be conserved in childhood and adult life.

The Complete Pediatrician

By Wilburt C. Davison, M.D., Professor of Pediatrics, Duke University. 1946. Duke University Press. \$4.00.

The author, unlike most teachers, frankly states that there are many details that he cannot remember and that he daily refers to this condensation of diagnostic and therapeutic literature. This common sense is such a refreshing contrast to the ward round instructor who's only available facts are in his upper level of consciousness.

Those physicians who complain that textbooks are padded should like this small volume; every word counts. A complete index permits one to find any one of the 164 pediatric signs and symptoms and the diseases which cause them. Treatment is furnished with specific instructions for medical, diet and other therapy. This volume represents the condensation of pediatric literature for 25 years.

Poisons

By Vincent J. Brookes, New Jersey State Police, and Hubert N. Alyea, Princeton University. D. Van Nostrand. 1946. \$3.00.

Properties, chemical identification, symptoms and emergency treatment of poisons are considered in brief, practical form, for the first aid man, the policeman, and the nurse. Hospitals might well keep this text in the first aid room. Certain small discrepancies might be noted in the text but the material as a whole is accurate, brief and usable.